

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

**Rec'd PCT/PTO 09 FEB 2005**

**PCT**

To:

see form PCT/ISA/220

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)**

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/JP2004/007047

International filing date (day/month/year)  
18.05.2004

Priority date (day/month/year)  
04.07.2003

International Patent Classification (IPC) or both national classification and IPC  
F04B39/00, F04B35/04

Applicant  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
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**Box No. II    Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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**Box No. V    Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	
Inventive step (IS)	Yes: Claims	1-8
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

**see separate sheet**

Reference is made to the following documents:

D1 : JP - U - 52 139407

D2 : US - A - 5 435 702

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

V-1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

A hermetic compressor (1) comprising an electric driving element (7) ;a compressing element (5) driven by the electric driving element (7); and a closed vessel (2) for storing the electric driving element (7) and the compressing element (5), wherein the compressing element (5) comprises: a shaft (12) having an eccentric shaft portion (13) and an auxiliary shaft portion (29) and a spindle portion (28) provided coaxially at the top and the bottom with the eccentric shaft portion (12) between; a cylinder block (11) provided with a compression chamber; a main bearing (24) provided on the cylinder block (11) and supporting the spindle portion (28); an auxiliary bearing (23) provided on the cylinder block (11) and supporting the auxiliary shaft portion (29); a piston (16) reciprocating in the compression chamber; and a connecting means (14) connecting between the piston (16) and the eccentric shaft portion (13); wherein a balance weight (29) is provided at a side end of the eccentric shaft portion (13) of the auxiliary shaft portion (29) (Cf. D1; Fig.1).

The further features of claim 1 are new and the claim meets therefore the novelty requirement of Article 33(2).

V-2 The problem solved by the distinguishing features of claim 1 is how to reduce vibrations in a hermetical compressor maintaining a good workability in assembling.

Even though the balance weight in the hermetic compressor of D1 reduces the vibrations produced by the piston reciprocating inertial forces, it does not prevent any unbalanced forces in a second direction. D2, which deals with a similar hermetic compressor and recognizes the above problem, also proposes a solution providing two balance weights. However, both first and second balance weights are located on upper and lower portion of the rotor of the motor section (cf. D2; column 1, line 59 - column 2, line 12; Fig. 2) and not directly on the compressor shaft. Therefore neither D1 nor D2 hints to the claimed solution.

As the distinguishing features of claim 1 are not suggested by any of the cited documents, the said claim meets therefore the inventive step requirement of Article 33(3) PCT.

V-3 Claims 2-8 are formulated as dependent on claim 1 and therefore also said claims meet the requirements of Article 33(2) and (3) PCT.

V-4 Apart from the opinion on patentability of the application, the following objections must be taken into account:

- a) The independent claims are not properly cast in two part form, with those features which in combination are part of the prior art (D1) being placed in the preamble, contrary to the requirements of Rule 6.3 b) i) and ii) PCT.
- b) The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2 b) PCT in combination with PCT/GL/ISPE/1; Part II; 5.11).
- c) The feature of claim 4, that "the side end of the eccentric shaft portion of the **spindle** portion and the first balance weight are provided with fitting portion to be positioned by fitting of concave part and convex part", is not in conformity with the description and the figures (cf. application; page 10, lines 10-15; Fig. 4) as required by Article 6 PCT. If the applicant regards it as

appropriate, the word "spindle" in claim 4 should be replaced by "auxiliary shaft" in order to overcome this objection.

- d) The terms "the auxiliary shaft portion and the sliding portion of the auxiliary shaft portion are separated from the two ends of the auxiliary shaft portion" used in claims 5 and 6 are vague and unclear and leave the reader in doubt as to the meaning of the technical feature to which they refer, thereby rendering the definition of the subject-matter of said claims unclear (Article 6 PCT).